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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,017	02/07/2002	Jeffrey J. Rosentreter	LIT-PI-268	8760

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EXAMINER	
SINES, BRIAN J	

ART UNIT	PAPER NUMBER
1743	

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/071,017	ROSENTRETER ET AL.	
	Examiner	Art Unit	
	Brian J. Sines	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *9/23/2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27 and 30-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-20* is/are allowed.

6)☒ Claim(s) *21-25,30 and 31* is/are rejected.

7)☒ Claim(s) *26,27 and 32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claim 21 is withdrawn in view of the newly discovered reference(s) to Imahashi et al. (U.S. Pat. No. 4,844,611).

2. The indicated allowability of claim 25 is withdrawn in view of the newly discovered reference(s) Carlson et al. (U.S. Pat. No.4,713,618).

3. Claims 1 – 20 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding claims 1 and 11, the cited prior art neither teach nor fairly suggest a method for the real-time measurement of aqueous cyanide utilizing a gold-plated piezoelectric crystal substrate.

4. Claims 26, 27 & 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 26, the cited prior art neither teach nor fairly suggest the further incorporation within the apparatus of Kösslinger et al. a portion of the first surface of the piezoelectric crystal, which is coated with a fluorinated spray coating to prolong the lifetime of the crystal.

Regarding claim 27, the cited prior art neither teach nor fairly suggest the further incorporation within the apparatus of Kösslinger et al. a collection means for collecting test specimens to recover gold.

Regarding claim 32, the cited prior art neither teach nor fairly suggest the further incorporation within the apparatus of Kösslinger et al. a means for directing test specimens to specific flow cells within a flow cell stack.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 21 – 24, 30 & 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kösslinger et al. (U.S. Pat. No. 6,196,059 B1) in view of Hsueh et al. (U.S. Pat. No. 5,365,559 A) and Imahashi et al. (U.S. Pat. No. 4,844,611).

Regarding claim 21, Kösslinger et al. teach a measurement system comprising: at least one flow cell (18) adapted to contain a piezoelectric crystal (coated piezoelectric resonator comprising quartz oscillator substrate 1 & sensor element 29) having a gold coating (electrically-conductive layer 3), wherein the piezoelectric crystal (29) comprises first (or lower side) and second (or top upper side) surfaces, as shown in figure 5, wherein the first surface is configured to contact a test specimen within the flow cell via flow-through cell volume (30) and the second surface is configured to contact an ambient atmosphere; and a controller to control and measure changes in the oscillation frequency of the piezoelectric crystal (see col. 2, lines 37 – 42; col. 6, lines 60 – 67; col. 9, lines 9 – 18; figures 1A, 1B & 4 – 6).

Kösslinger et al. do not specifically teach the further incorporation of a purging means for purging and rinsing the flow cell. However, it is well known in the art to purge or rinse flow cells in order to provide a clean flow cell so as to ensure accurate measurements (see MPEP § 2144.03). For example, Hsueh et al. teach an analytical apparatus, which incorporates the use of a purging or rinsing liquid for rinsing flow cell (3) (see col. 2, lines 20 – 36). Hence, as evidenced by Hseuh et al., a person of ordinary skill in the art would have recognized the suitability of using a purging and rinsing means for an analytical apparatus utilizing a flow cell. Furthermore, as indicated by Hseuh et al., a person of ordinary skill in the art would accordingly have had a reasonable expectation for success of utilizing such a purging means with an analytical apparatus utilizing a flow cell. The Courts have held that the prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. See *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) (see MPEP § 2143.02). Therefore, it would have been obvious to a person of ordinary skill in the

art to incorporate a means for purging and rinsing the flow cell with the disclosed analytical apparatus.

Kösslinger et al. do not specifically teach the further incorporation of an agitation means for promoting mixing within the test specimen. Imahashi et al. do teach the use of a mixer (54) for promoting the mixing of a sample prior to introduction to a flow cell (see figure 7; col. 6, lines 5 – 31). Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the use of an agitation means with the disclosed apparatus in order to facilitate effective sample measurement.

The recitation that the measurement system is for measuring cyanide concentration is considered an intended use or process limitation, which does not further delineate the structure of the claimed apparatus from that of the prior art. Since the instant claim is drawn to an apparatus statutory class of invention, it is the structural limitations of the apparatus, as recited in the claim, which are considered in determining the patentability of the apparatus itself. This recited process or intended use limitation is accorded no patentable weight to the claimed apparatus. Process limitations do not add patentablility to a structure, which is not distinguished from the prior art. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967); and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). The Courts have held that it is well settled that the recitation of a new intended use, for an old product, does not make a claim to that old product patentable. See *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997) (see MPEP §

2111.02). The Courts have held that apparatus claims must be structurally distinguishable from the prior art in terms of structure, not function. See *In re Danley*, 120 USPQ 528, 531 (CCPA 1959); and *Hewlett-Packard Co. V. Bausch and Lomb, Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). The Courts have held that the manner of operating an apparatus does not differentiate an apparatus claim from the prior art, if the prior art apparatus teaches all of the structural limitations of the claim. See *Ex Parte Masham*, 2 USPQ2d 1647 (BPAI 1987) (see MPEP § 2114).

FIG. 1A

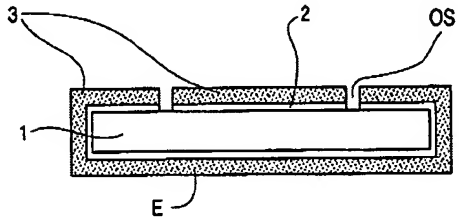


FIG. 1B

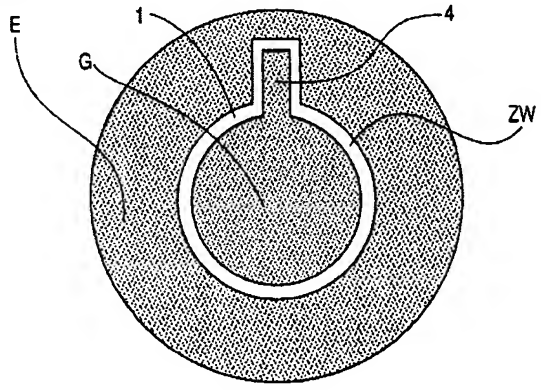


FIG. 4

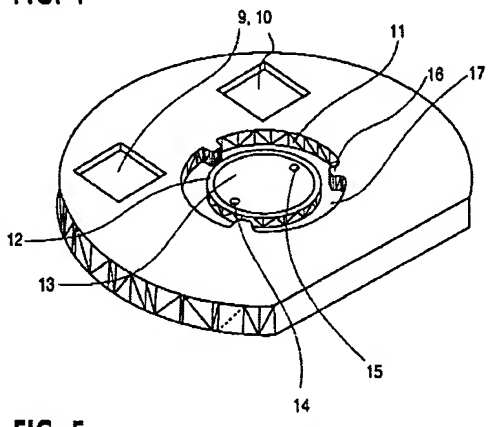
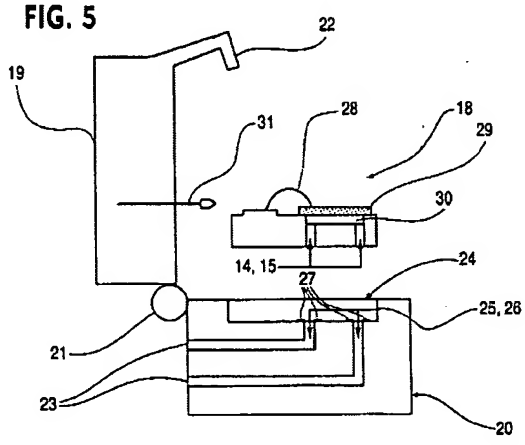
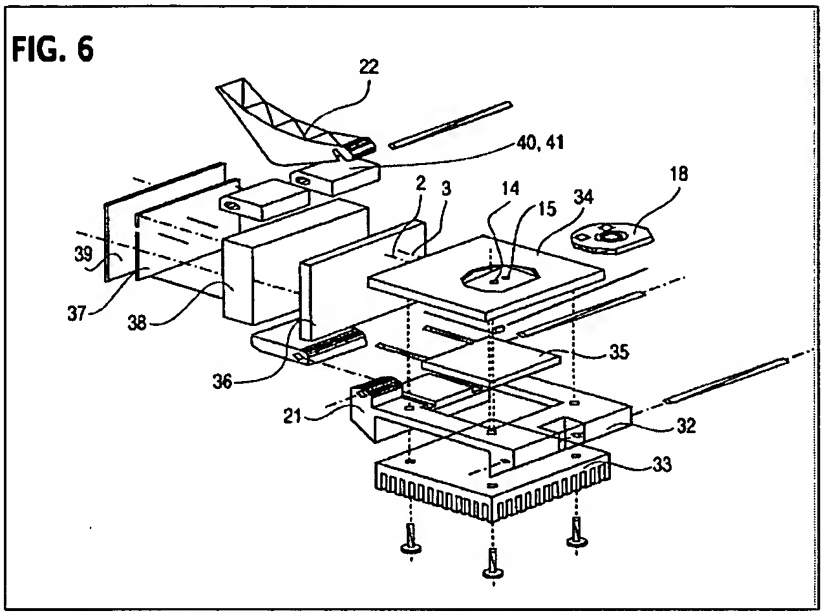


FIG. 5





Regarding claim 22, this claim recites an additional component, such as a known calibration standard, that is intended to be utilized with the claimed apparatus. This claim recitation is considered a process or intended use limitation, which does not further delineate the structure of the claimed apparatus from that of the prior art. Since these claims are drawn to an apparatus statutory class of invention, it is the structural limitations of the apparatus, as recited in the claims, which are considered in determining the patentability of the apparatus itself. Recited process or intended use limitations are accorded no patentable weight to an apparatus. Process limitations do not add patentablility to a structure, which is not distinguished from the prior art. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967); and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). The Courts have held that it is well settled that the recitation of a new intended use, for an old product, does not make a claim to that old product patentable. See

In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997) (see MPEP § 2111.02). The Courts have held that apparatus claims must be structurally distinguishable from the prior art in terms of structure, not function. See *In re Danley*, 120 USPQ 528, 531 (CCPA 1959); and *Hewlett-Packard Co. V. Bausch and Lomb, Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). The Courts have held that the manner of operating an apparatus does not differentiate an apparatus claim from the prior art, if the prior art apparatus teaches all of the structural limitations of the claim. See *Ex Parte Masham*, 2 USPQ2d 1647 (BPAI 1987) (see MPEP § 2114).

Regarding claims 23 & 24, the use of filters for filtering samples prior to testing are well known in the art (see MPEP § 2144.03).

Regarding claim 30, the incorporation of real-time display and recording means for measured concentrations, such as via the utilization of a computer, are well known in the art (see MPEP § 2144.03).

Regarding claim 31, Kösslinger et al. do teach the use of a single oscillation circuit and piezoelectric quartz crystal (29) (see col. 1, lines 31 – 41; col. 9, lines 9 – 18). Kösslinger et al. do not specifically teach the utilization of dual piezoelectric oscillator circuits to allow the simultaneous measurement of the changes in oscillation frequency of multiple piezoelectric crystals. However, the Courts have held that the mere duplication of parts, without any new or unexpected results, is within the ambit of one of ordinary skill in the art. See *In re Harza*, 124 USPQ 378 (CCPA 1960) (see MPEP § 2144.04). Hence, a person of ordinary skill in the art would accordingly have had a reasonable expectation of success of incorporating the use of dual piezoelectric oscillator circuits to allow the simultaneous measurement of the changes in

oscillation frequency of multiple piezoelectric crystals. Furthermore, the Courts have held that the prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. See *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) (see MPEP § 2143.02). Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the use of dual piezoelectric oscillator circuits to allow the simultaneous measurement of the changes in oscillation frequency of multiple piezoelectric crystals.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kösslinger et al. in view of Hsueh et al.. as applied to the claims above, and further in view of Carlson et al. (U.S. Pat. No.4,713,618).

Kösslinger et al. do not specifically teach the further incorporation of a means for adjusting pH for the test specimen. Carlson et al. do teach an analytical apparatus using a means (e.g., calibration system 36) for adjusting pH with a flow cell (32) (see figure 2). Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate the use of a means for adjusting pH with the disclosed apparatus in order to facilitate effective sample measurement.

Response to Arguments

Applicant's arguments with respect to the pending claims have been considered, but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines whose telephone number is (571) 272-1263. The examiner can normally be reached on Monday - Friday (11 AM - 8 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).